



## UT Southwestern Medical Center William P. Clements, Jr. University Hospital

### Case Study

Located in Dallas, Texas, The University of Texas Southwestern Medical Center is one of the leading medical education and biomedical research institutions in the United States. With more than two million outpatient visits and nearly 91,000 hospitalized patients annually, UT Southwestern has continued to expand its medical facilities to accommodate demand.

*New Construction*

#### Situation

In March 2011, construction began the new William P. Clements Jr. University Hospital (Clements University Hospital). The \$800 million state-of-the-art facility is designed to focus on the most effective and innovative ways to enhance the patient's medical care, experience and safety through the integration of UTSW's three-part mission of top quality medical care, research and medical education.

**LEAN  
PRACTICES &  
PREFABRICATION  
SPEED UP  
HOSPITAL  
CONSTRUCTION**





The new facility will replace the current St. Paul University Hospital. Due to evolutionary changes in technology and research, the approximately 50 year old

facility can no longer accommodate necessary upgrades in equipment and software to remain at the forefront of technological advancements. Hunt Construction Group contracted TDIndustries (TD) to handle all facets of the mechanical and plumbing systems, including the medical gas.

### Solution

TD's utilization of Lean principles, including pull planning, expedited the timeline of this project, allowing for total mechanical portion to be completed months in advance. Collaboration with Hunt and the hospital enabled challenges and scheduling conflicts to be addressed upfront. In an effort to keep the project schedule on track, TD focused on three major components of the project that would be the most difficult to coordinate:

- 370 prefabricated patient bathrooms were manufactured off-site to guarantee regulations and medical requirements were met
- A 600-foot utility tunnel was constructed with prefabricated 40-foot utility piping racks for quick installation.
- Multi-trade prefabricated patient room headwalls were created utilizing BIM, allowing for exact precision every time.

With great organization and communication efforts provided by Hunt, the owner and TD, the project remained months ahead of schedule and within budget.

### Success

TD added value to the project with its Lean construction and pull planning knowledge and provided hands-on expertise and training to subcontractors who were not familiar with the techniques. TD's ability to prefabricate so much of the work, contributed to reduced costs, and ensured a higher level of quality and safety. The William P. Clements Jr. University Hospital will offer cutting-edge technology in research and medicine to the community for generations to come.

### *Clements University Hospital by the Numbers:*

**12 floors**

**1.3 million sf**

**460 single-patient rooms**

**40 emergency treatment  
rooms**

**370 pre-built hospital  
bathroom pods**

**600 ft utility tunnel**

